

FISCAL YEAR 2017**STATE CLEAN DIESEL GRANT PROGRAM****WORK PLAN AND BUDGET NARRATIVE TEMPLATE**

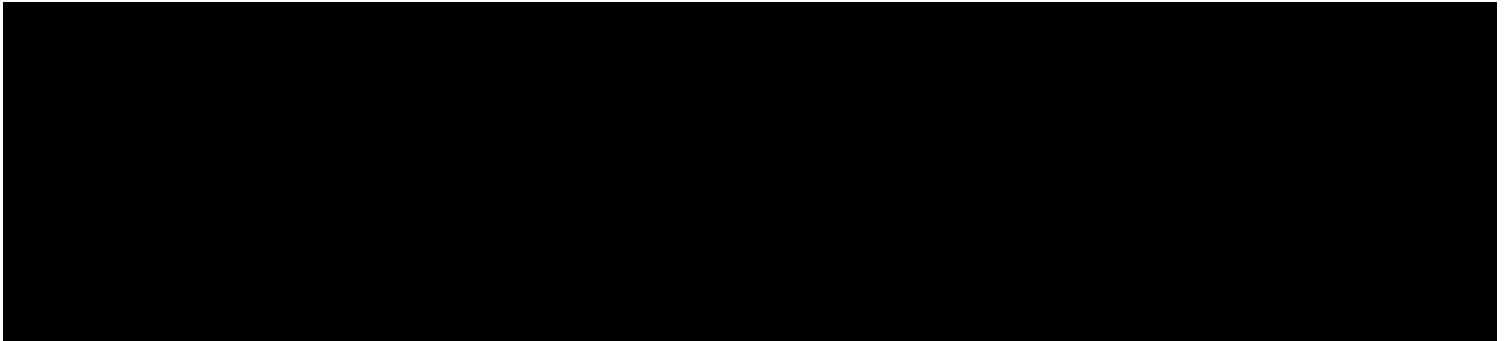
INSTRUCTIONS: States and territories applying for FY 2017 DERA State Clean Diesel Grant Program funding must use this template to prepare their Work Plan and Budget Narrative.

Please refer to the FY 2017 STATE CLEAN DIESEL PROGRAM INFORMATION GUIDE for full Program details, eligibility criteria and funding restrictions, and application instructions.

SUMMARY PAGE

Project Title: FY18 State Clean Diesel Grant Program- State of Utah

Project Manager and Contact Information



Project Budget Overview:

	FY 2017*	FY 2018
EPA Base Allocation	\$232,312	\$274,999
State or Territory Matching Funds (if applicable)	\$275,400	\$275,400
EPA Match Incentive (if applicable)	\$116,156	\$137,500
Mandatory Cost-Share	\$756,800	\$834,900
TOTAL Project	\$1,380,614	\$1,522,799

*FY 2017 budget is only for states and territories with open FY 2017 State DERA grants

Project Period

October 1, 2018 – September 30, 2019

Summary Statement

Insert a brief paragraph that summarizes the proposed project. Please include the state webpage URL that details past DERA State Clean Diesel Program projects, if applicable.

The Utah Division of Air Quality (UDAQ) proposes to use FY 2017- 2018 State Clean Diesel Program funds for diesel school bus replacements to all-electric school buses. Priority given to school buses that operate in the Logan, Provo, and Salt Lake, UT, PM_{2.5} non-attainment areas.

The webpage URL for Utah Clean Diesel Projects is: cleandiesel.utah.gov.

SCOPE OF WORK

This section is a discussion of the state's or territory's plan to develop and implement grant, rebate, and/or loan programs and how these programs meet state or territory goals as they relate to the reduction of diesel emissions.

The scope of work should contain a detailed project description, including the following categories and information.

STATE/TERRITORY GOALS AND PRIORITIES: *A description of the air quality within the state or territory, the quantity of air pollution produced by the diesel fleet in the state or territory, and the primary sectors (e.g. highway, marine vessels, construction equipment) that make up the state's or territory's diesel fleet (both public and private).*

The Utah Department of Environmental Quality (UDEQ), Division of Air Quality (DAQ) is proposing to target PM_{2.5} (particulate matter), NO_x (nitrogen oxides), and VOC (volatile organic compounds) emissions through the diesel emissions reduction activity of replacing diesel school buses with all-electric in the Logan, Salt Lake, and Provo, UT, 24-hour PM_{2.5} nonattainment areas in an effort to comply with the National Ambient Air Quality Standards (NAAQS).

In certain areas of Utah, exceedances of the 24-hour PM_{2.5} standard occur in the winter months when temperature inversions occur. The Wasatch Mountains, Oquirrh Mountains, and Traverse Mountains create a bowl that surrounds lowland valleys where Utah's population is concentrated. This unique topography blocks horizontal air movement, causing air masses to stagnate in those population centers where vehicles are abundant. During the cold winter months, temperature inversions develop where a warmer air mass sits on top of a colder air mass. Very little vertical air exchange happens during an inversion and the warm air acts as a lid on top of a bowl, trapping air and pollution. Primary and secondary PM_{2.5} build and cannot dissipate until a strong weather system moves through the lowland valleys. The air stagnation and pollution buildup results in exceedances of the 24-hour PM_{2.5} National Ambient Air Quality Standards. Consequently, the EPA has classified the Provo and Salt Lake areas as serious nonattainment areas for 24-hour PM_{2.5} and the Logan area as a moderate nonattainment area for PM_{2.5}.

More than 80% of the state's population live and work in the Salt Lake and Provo PM_{2.5} nonattainment portions of the Wasatch Front where construction projects and major transportation systems are most prevalent. Because the Wasatch Front is only approximately 18 miles wide, most of the land within this area has been developed and has experienced rapid growth from Utah's aggressive economic development trends. The Wasatch Front is a central point for national freight distribution and is home to thousands of warehouses, distribution centers, and terminals for the country's largest trucking companies, carriers, and suppliers, creating a high presence of diesel freight traffic, over 1,064,365,750 vehicle miles traveled, that contribute to over 19,674 tons of pollution annually.

North of the Wasatch Front, the Logan PM_{2.5} nonattainment area located in Cache County, has similar topography as the Wasatch Front. The Cache Valley is approximately 4,500 feet above sea level and is almost

entirely surrounded with steep mountains reaching over 9,000 feet above sea level, forming a bowl around the valley. During the winter, sub-freezing temperatures, snow-covered ground, and stagnant high-pressure systems result in dense fog formation and temperature inversions over the valley, trapping pollution near the valley floor. The Logan nonattainment area has received national attention for having some of the worst air quality in the country during the inversion season and experiences approximately 65,564,200 vehicle miles traveled annually by heavy-duty diesel vehicles¹.

While Utah's meteorology and unique natural characteristics are important factors in the buildup of fine particulate in Utah's nonattainment areas, the majority of the PM_{2.5} that builds up during these pollution episodes is formed through complex chemical reactions involving volatile organic compounds (VOCs) and NO_x. Those same VOCs and NO_x also contribute to the formation of ozone, which is a summertime issue along the Wasatch Front when sunlight causes chemical reactions to occur between VOCs and NO_x to produce ozone.

On April 30, 2018, EPA Administrator Scott Pruitt signed a final notice designating the Northern and Southern Wasatch Front and the Uinta Basin (Duchesne and Uinta counties) as marginal nonattainment areas for the 2015 8-hour ozone standard.

Medium- and heavy-duty diesel vehicles are the largest mobile source contributors of NO_x emissions in the nonattainment areas, representing half of the on-road mobile sources category. Falling into these vehicle engine categories, diesel school buses remain a priority to DAQ for diesel emissions reductions. Recent developments in school bus technology offer new all-electric options for school districts to consider. DAQ will target school buses with routes in the nonattainment areas, specifically those considered to be in or near Environmental Justice Areas, and offer financial incentives for districts to test the new school bus technology. It is anticipated that districts across the state will look to these projects when considering new school bus options.

VEHICLES AND TECHNOLOGIES: *A description of the eligibility, number, types and typical use, and ownership of vehicles, engines, and/or equipment targeted for emission reductions. Eligibility of vehicles is defined in Section VIII.B of the Program Guide. A description of all verified and/or certified technologies to be used or funded by the applicant. Eligibility of technologies is defined in Section VIII.C of the Program Guide.*

UDEQ anticipates funding up to 45% of the cost for replacing approximately eight diesel school buses with new all-electric school buses (four buses for FY17 and four for FY18). The school buses to be selected will be owned by the respective school districts or private businesses contracted for transportation by the school districts. The school buses are used to transport pre-school, elementary, junior high, high school, and special needs students to and from school and other activities.

Diesel school buses with engine model years 1995 to 2006 that are not scheduled for replacement before October, 2021, will be selected to participate with priority given to buses that operate in the 24-hour PM_{2.5} non-attainment areas. School buses will be selected with the condition that they will be permanently disabled, that the school districts are able to meet the mandatory match requirements, and that the replacement activities will occur within the required timeline, using new all-electric school bus technology.

¹ UDEQ 7-County Heavy-Duty Vehicle Inventory (2016 Annual)

ROLES AND RESPONSIBILITIES: *A discussion of the roles and responsibilities of the state or territory and any other project partners, contractors, or subgrantees. State and territories should indicate whether their Program funds will support grant, rebate, and/or loans, and provide a detailed description of their disbursement methodology.*

DAQ will assign two full-time employees to coordinate, monitor, and oversee these projects to ensure successful use of grant funds throughout the project period, report on progress, and promote its success. DAQ staff will establish criteria and requirements for participation, determine project eligibility, monitor and report on progress, oversee contracts, budget, and promote program accomplishments.

Participating school districts will be responsible for meeting the grant requirements, working with the school bus manufacturers, making the all-electric school bus purchases following state procurement rules, providing the mandatory cost-share, and submitting required grant documentation to DAQ.

DAQ will coordinate with the local utility to determine other incentives that may be leveraged for all-electric projects, such as infrastructure costs. Utah legislators passed the Sustainable Transportation and Energy Plan (STEP) to support the expansion of electric vehicle (EV) technology. This provides \$2 million for five years for EV infrastructure, air quality, and other initiatives, and an opportunity to partner with another entity to leverage project costs.

FY17 and FY18 State Clean Diesel Grant funds will support grants to be dispersed as reimbursements to the school districts for allowable costs of the new all-electric school buses, upon demonstration by the school districts that grant requirements have been met.

TIMELINE AND MILESTONES: *A detailed timeline for the project including milestones for specific tasks, such as subgrant or rebate program development, solicitation of project partners, making subawards, program/project implementation, procurement and installation of equipment, monitoring and oversight of projects, and reporting.*

FY2017 Project Timeline:

- October 2018: Announce project award on Utah Clean Diesel Program website and release grant award information to the media.
- October 2018: The DAQ begins working with school districts, the local utility, and all-electric school bus manufacturers to identify and coordinate school bus replacement projects.
- December 2018: School districts submit diesel school buses to DAQ for evaluation to participate.
- January 2019: DAQ develops grant documents. Quarterly reports submitted to EPA.
- February 2019: Grant contracts finalized. School districts submit bids to DAQ for new all-electric school buses
- March 2019: Upon approval of new school bus bids from DAQ, school districts place order for new all-electric school buses.
- April 2019: Quarterly reports submitted to EPA.
- July-August 2019: New all-electric school buses placed into service, old diesel school buses scrapped.
- July 2018: Quarterly reports submitted to EPA.
- August-September 2019: School districts submit required documentation to DAQ for grant reimbursement of new school buses.

- September, 2019: The DAQ announces completion of school bus replacement projects to media sources. Final drawdowns occur.
- December, 2019: Final report submitted to EPA.

DERA PROGRAMMATIC PRIORITIES: A discussion of how, in providing grants, rebates, and loans under the Program, the state or territory will ensure that projects selected for funding supports the programmatic priorities as defined in Section VIII.D of the Program Guide.

DAQ's primary goal is to select diesel school buses that operate predominately in Utah's PM_{2.5} nonattainment areas: Box Elder, Cache, Davis, Salt Lake, Tooele, and Utah counties and replace them with zero tailpipe emissions school buses. School districts with diesel school buses that operate in Salt Lake County will receive higher priority as it is also considered to be an area having toxic air pollutant concerns, according to the National Air Toxics Assessment.

School bus depots in these areas will be directly impacted by the new fueling source for the all-electric school buses. EV charging stations will be installed in these areas where school buses are parked for long periods of time, eliminating emissions from diesel engines.

EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS: A description of the how the projects selected for funding support the Agency's Strategic Plan, as well as a description of the environmental outputs and outcomes to be achieved under the Program, as defined in Section VIII.E of the Program Guide. To estimate some of the anticipated outcomes of the award (e.g. emissions reductions), EPA encourages states and territories to use the Diesel Emissions Quantifier found at:

www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq.

This proposal supports progress toward EPA's 2018-2022 Strategic Plan Goal 1, "Core Mission: Deliver real results to provide Americans with clean air, land, and water, and ensure chemical safety." Objective 1.1 "Improve Air Quality...work with states and tribes to accurately measure air quality and ensure that more Americans are living and working in areas that meet high air quality standards."

Reducing emissions from diesel engines in areas of the state that exceed the NAAQS is the primary goal for these projects. Targeting diesel engines provides an opportunity for implementing voluntary emissions reductions from a source that is not regulated at the state level. These projects will target the most populous areas of the state and achieve measureable results with the following anticipated outputs and outcomes:

Activities	Outputs	Outcomes								
		Reductions Per Year		Lifetime Emissions Reductions						
		Hours of Idling Reduced/Year	Approximate Diesel Equivalent Gallons of Fuel Conserved/YR	NOx (short tons)	PM2.5 (short tons)	HC (short tons)	CO (short tons)	CO2 (short tons)	Approximate Diesel Equivalent Gallons of Fuel Conserved	Hours of Idling Reduced
Replace 4 Diesel School Buses	4 diesel school buses, engine model year average 2002, permanently disabled and replaced with electric school buses	268	7,504	1.336	0.094	0.264	0.628	337.700	30,016	1,072
	Totals	268	7,504	1	0	0	1	338	30,016	1,072

Other Outputs:

- Number of grant agreements/contracts signed by participating fleet owners/operators
- Number of vehicle's evaluated and approved by UDAQ for participation
- Number of new vehicle purchases
- Number of vehicles scrapped
- Amount of reimbursements made to fleet owners/operators

Other outputs will be measured using a form to track progress on program deliverables. The deliverables include the number of vehicles, executed grant contracts, participant submittal of vehicle information, DAQ approval of vehicle eligibility, submittal of bids for new vehicle purchases, DAQ approval of bids, submittal of scrappage documentation, DAQ approval of scrappage documentation, submittal of new vehicle purchase documents (invoices, proof of payment to verify cost-share commitment was met. Using the Google Drive process managed through one email account, staff is able to more efficiently and effectively track communications and data in one place.

Other Outcomes:

- Community outreach and participation through monthly partner meetings conducted by the Utah Clean Air Partnership – UCAIR was formed as a government program, initiated by Utah Governor Gary Herbert, to bring business, industry, education, and government partners together to improve Utah's air quality statewide. UCAIR partners meet monthly to share efforts and identify ways of working with each other to design projects that educate the community and have measureable outcomes. This network continues to focus on education, outreach, and strategies for improving air quality through sharing experiences, knowledge, and best practices. The Utah Clean Diesel Programs are exemplified in these efforts.
- Promotion of project activities through websites, social media, annual reports, press releases, and other marketing sources. Throughout the project period, DAQ will contact local media outlets and utilize marketing sources such as the Utah Department of Environmental Quality website, social media, public outreach activities and promotional projects to endorse the project's outcomes. Vehicle purchases through this program will receive a program decal to display on the vehicle that includes the program's website that will direct the public to more detailed information about Utah Clean Diesel Program information and related activities.
- School buses to be targeted will operate in low-income areas transporting children, some with special needs, who are vulnerable to adverse health outcomes due to pollution from diesel engines. Health benefits for this population group will have long-term effects.
- Grant documents generated with participating school districts to provide an outline of the grant requirements.
- Partnerships with vehicle manufacturers, school districts, the local utility, and the state.
- Quarterly and final reporting to EPA will occur and will provide an account for measurable performance of the activities represented in this proposal throughout the project period in an effort to ensure the environmental objectives are being met within the appropriate timeline and within budget. This will document any setbacks that may occur. The final report will summarize environmental achievements, cost, and any barriers that may have taken place throughout the grant period.

- Demonstration of new vehicle technology with the intent of widespread adoption across the state.
- Stimulate emerging school bus technologies with zero tailpipe emissions.
- The long-term outcomes of this project are to reduce pollutants as an on-going effort for Utah to comply with unmet NAAQS in certain areas to protect public health. The emissions reductions that will result from carrying out these projects will provide long-term public health benefits in specific locations.
- Contractual obligations will ensure grant requirements and associated outputs and outcomes are met.

SUSTAINABILITY OF THE PROGRAM: *A description of the state's or territory's plan for sustaining the project beyond the assistance agreement period. Additionally, describe the state's or territory's plan for publicizing and promoting the benefits of the activities within the state or territory.*

DAQ has been participating in diesel emission reduction programs and has useful experience identifying, implementing, and overseeing successful projects to completion. DAQ values opportunities to expand projects to their full potential by creating methods to match EPA's funding in order to maximize sustainability. We anticipate that the successes of our past clean diesel projects will increase the potential for state clean diesel funds to continue being allocated or awarded to us by EPA for expansion in the future. DAQ will use our experience and past successes to compete for future funding opportunities to provide financial resources for Utah diesel fleets. The following efforts will help sustain the project beyond this assistance agreement:

- DAQ will promote diesel emissions reduction activities by providing a public notification that lists project information within 60 days of a grant, including clean diesel information on websites, social media, promotional projects, and public outreach events. DAQ will also encourage the vendors to provide technical training to the participants on the proper maintenance and use of the new equipment purchases in order to ensure the maximum sustainability of the project.
- The distribution of information related to the technology and benefits achieved through these projects will result in an increased public awareness of the value in reducing diesel emissions.
- The targeted school buses will operate in low-income areas transporting children, some with special needs, who are vulnerable to adverse health outcomes due to pollution from diesel engines. Health benefits for this population group will have long-term effects.
- The long-term outcomes of this project are to reduce pollutants as an on-going effort for Utah to comply with unmet National Ambient Air Quality Standards in certain areas to protect public health. The emissions reductions that will result from carrying out these projects will provide long-term public health benefits in specific locations.
- The school districts have an idle-free policy and education in place to inform students at a young age to practice sustainable habits that lower emissions.
- Additional funding sources, such as Volkswagen Settlement Funds, Targeted Air Shed Grants, and state incentives, will be used to incent upgrades to heavy-duty diesel fleets.

BUDGET NARRATIVE

This section of the work plan should include a detailed itemized budget proposal (in addition to the Standard Form 424A), using the example below. Justify the expenses for each of the categories being performed within the grant/project period. Indicate which costs will be paid by the state's or territory's allocation from EPA (which would include the bonus match, if applicable) and which costs will be paid by the state's or territory's voluntary matching funds, if applicable.

*Applicants must **itemize** costs related to personnel, fringe benefits, travel, equipment, supplies, contractual costs, other direct costs, indirect costs, and total costs. If the project budget includes any cost-share, mandatory or voluntary, the budget detail portion of the work plan must include a detailed description of how the applicant will obtain the cost-share and how the cost-share funding will be used.*

Mandatory cost-share funds must be in the form of cash contributions to the Equipment Category. If EPA accepts an offer for a voluntary cost-share, applicants must meet their sharing commitment in order to receive EPA funding. If the proposed cost-share is to be provided by a third-party, a letter of commitment is encouraged. Any form of cost-share included in the budget detail must also be included on the SF-424 and SF-424A.

Applicants should use the following instructions, budget category descriptions and example table to complete the budget detail section of the work plan. Detailed sample budgets representing various mandatory cost-share versus state voluntary match scenarios are available at: www.epa.gov/cleandiesel/clean-diesel-state-allocations.

FY17 and FY18 Itemized Project Budgets

FY17 STATE CLEAN DIESEL GRANT PROGRAM BUDGET						
				EPA Funding	State Match	Mandatory Match
Personnel (All Listed are 100% FTE)	Annual Salary		% Project Time			
					\$0	\$0
					\$0	\$0
Travel						
In-state site visits; travel for 1 person, based on cost reimbursement	Estimated Rate:		Number:			
Hotel	\$128.00		0	\$0		
Daily Per Diem	\$36.00		0	\$0		
Mileage	\$0.36		-	\$0		
TOTAL TRAVEL				\$0	\$0	\$0
Equipment	Cost/Unit		QTY			
				\$0	\$0	
				\$0	\$0	
TOTAL EQUIPMENT				\$0	\$0	\$0
Supplies						
TOTAL SUPPLIES						
Contractual						
	Labor rate (\$/hour):		Duration (hours per unit):			
				\$0	\$0	
				\$0	\$0	
TOTAL CONTRACTUAL				\$0	\$0	\$0
Other (includes Participant Support Costs)						
	Cost/Unit		QTY			
Diesel School Bus Replacements to All-Electric	\$382,000		2	\$343,800		\$420,200
Additional Diesel School Bus Replacements Through Voluntary Match (Special Ed)	\$306,000		2		\$275,400	\$336,600
Building & Site Rental				\$100		
Utilities				\$87		
LAN/WAN				\$51		
Phone				\$30		
Printing/Photocopy				\$30		
TOTAL OTHER			4	\$344,098	\$275,400	\$756,800
TOTAL DIRECT				\$347,934	\$275,400	\$756,800
TOTAL INDIRECT (based on OMB Circular A-87 Cognizant Agency Negotiation Agreement. Percentage taken from personnel and benefits)			12.53%	\$481		
TOTAL FUNDING				\$348,414	\$275,400	\$756,800
TOTAL PROJECT COST				1,380,614		
				Administrative Costs (personnel, benefits, travel, supplies)	\$3,836	
				% of EPA's Allocation	1%	

FY18 STATE CLEAN DIESEL GRANT PROGRAM BUDGET						
				EPA Funding	State Match	Mandatory Match
Personnel (All Listed are 100% FTE)	Annual Salary		% Project Time			
					\$0	\$0
Fringe Benefits						
					\$0	\$0
Travel						
In-state site visits; travel for 1 person, based on cost reimbursement	Estimated Rate:		Number:			
Hotel	\$128.00		0	\$0		
Daily Per Diem	\$36.00		0	\$0		
Mileage	\$0.36		-	\$0		
TOTAL TRAVEL				\$0	\$0	\$0
Equipment	Cost/Unit		QTY			
				\$0	\$0	
				\$0	\$0	
TOTAL EQUIPMENT				\$0	\$0	\$0
Supplies						
TOTAL SUPPLIES						
Contractual						
	Labor rate (\$/hour):		Duration (hours per unit):			
				\$0	\$0	
				\$0	\$0	
TOTAL CONTRACTUAL				\$0	\$0	\$0
Other (includes Participant Support Costs)						
	Cost/Unit		QTY			
Diesel School Bus Replacements to All-Electric	\$453,000		2	\$407,700		\$498,300
Additional Diesel School Bus Replacements Through Voluntary Match (Special Ed)	\$306,000		2		\$275,400	\$336,600
Building & Site Rental				\$90		
Utilities				\$80		
LAN/WAN				\$40		
Phone				\$20		
Printing/Photocopy				\$20		
TOTAL OTHER			4	\$407,950	\$275,400	\$834,900
TOTAL DIRECT				\$411,990	\$275,400	\$834,900
TOTAL INDIRECT (based on OMB Circular A-87 Cognizant Agency Negotiation Agreement. Percentage taken from personnel and benefits)			12.61%	\$509		
TOTAL FUNDING				\$412,499	\$275,400	\$834,900
TOTAL PROJECT COST				1,522,799		
				Administrative Costs (personnel, benefits, travel, supplies)	\$4,040	
				% of EPA's Allocation	1%	

Matching Funds and Cost-Share Funds

States and territories must provide a detailed description of the source of funding for any voluntary match or mandatory cost-share funds included in the project budget, if applicable. Include details on when the match will be available for use. If applicable, include letters of financial support, which specifically indicate how supporting organizations will assist in the project.

See Sections V.B and X of the Program Guide for more information on the voluntary matching incentive and mandatory cost-share funds.

The mandatory match will come from the participating school districts' transportation budgets. The voluntary state match will come from the Volkswagen Settlement of \$35,177,506, which DEQ has dedicated 7% to the DERA category.